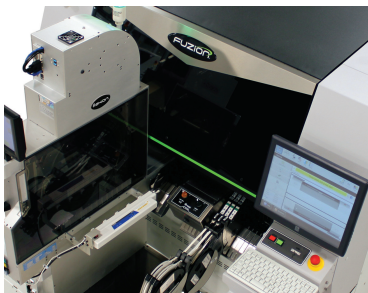**UniversaL®**
Instruments

flexion™

Delivering high-speed bare die to the mainstream

Traditional advanced assembly methods can no longer keep pace with today's highly integrated, higher-complexity production demands. Universal's FuzionSC™ Platform combined with the Flexion™ Wafer Feeder offers a complete solution to today's most challenging semiconductor packaging applications by combining extreme accuracy, bare die placement and multifunction assembly.
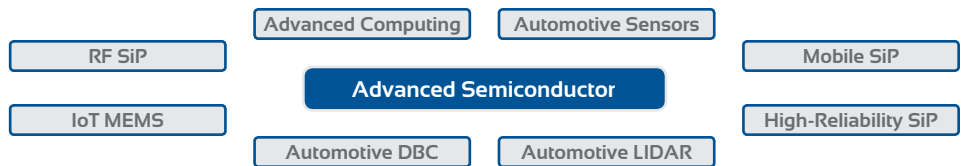
Embrace the convergence era of electronics assembly with Flexion by enabling the presentation of wafer-level devices to Universal's FuzionSC Platform without incurring costly die packaging expense.

Innovation

- Online programmable wafer expansion
- Processes fixed wafer size up to 300mm
- Cassette loading of up to 13 wafers with automatic wafer exchange
- Up to two Flexion per FuzionSC Platform
- ALPS server compatible for wafer mapping
- Ink and ink-less wafer map support
- Flip and non-flip die presentation support

Performance and Value

- Enables flip chip, die attach and multifunction SMT on a single platform
- Online expansion enables direct feed from cassette
- Multiple wafer feeders enable parallel processing for maximum throughput
- Supports environments from NPI to high-volume
- Ideal for multi-die applications such as SiP, Sensor and DBC products
- Traceability support with Flexion and FuzionSC

Advanced Computing	Automotive Sensors

RF SiP		Mobile SiP

Advanced Semiconductor

IoT MEMS		High-Reliability SiP

Automotive DBC	Automotive LIDAR

NEW! Online Expander

Leverage online wafer expansion to streamline production by feeding directly from cassette.
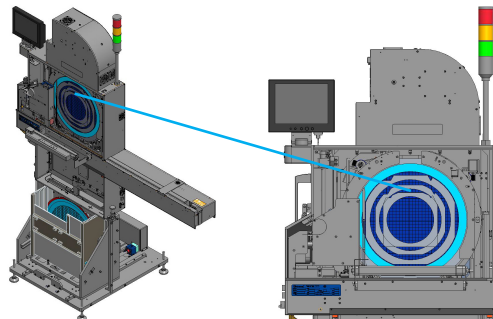
- 4", 6", 8", and 12" wafer expanding
- Programmable wafer expansion
- Minimum human interaction
- No gripper rim required
- *Minimal die damage, maximum yields*
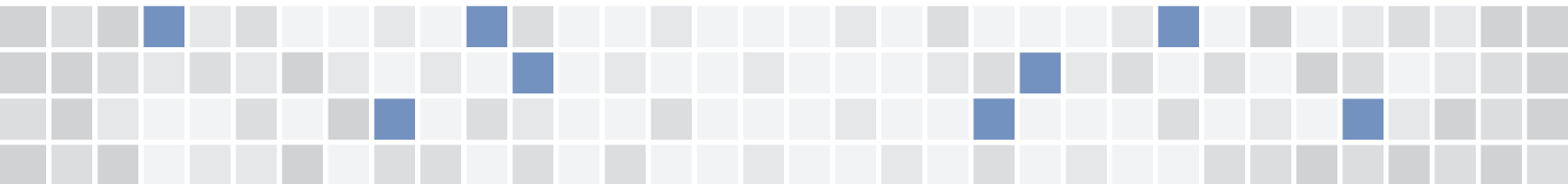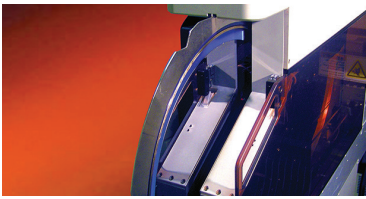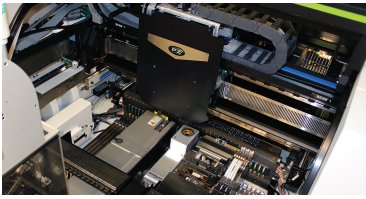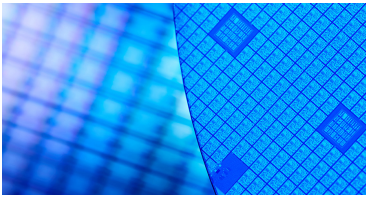
NEW! Cassette Loader

Load Flexion with up to 13 wafers in the cassette and leverage automatic exchange for maximum efficiency.
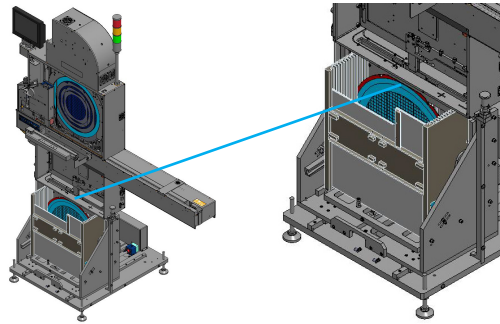
- Queue up to 13 wafers simultaneously
- Automatic wafer indexing
- Minimum human interaction, easy access
- Minimum loading time
- *Continuous production*

NEW! ALPS

Take advantage of ALPS to track devices through the many advanced semiconductor packaging processes .
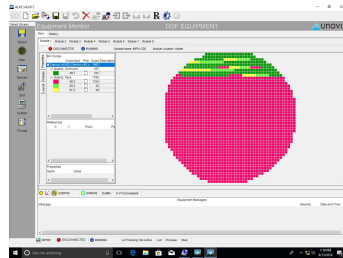
- ALPS server compatible
- Auto wafer map download
- Barcode reader
- Known good die alignment
- Real-time map file update
- Wafer mapping done in parallel with other operations
- *Achieve highest efficiency*

FLEXION SPECIFICATIONS	
Max Throughput (uph)	Flip Chip: 5,400 for 1mm die Direct Chip: 5,000 for 1mm die
CE Certified	Yes
Operating System	Windows® 10
Wafer Specification	Maximum Size: 300mm (12") Minimum Size: 100mm (4") Expansion Depth: 6.35mm, 6.0mm, 0.0mm (unexpanded)
Vision Recognition Methods	Thresholding, Pattern Matching, Corner & Bump Detection, Wafer Mapping
Die Specification	Minimum Size (L x W): 0.7mm x 0.7mm (0.027" x 0.027") Maximum Size: (L x W) 11.0mm x 11.0mm (0.43" x 0.43") Minimum Thickness: 75 μm (0.003") Maximum Thickness: 4.0mm (0.163" nominal) Die Material: Silicon, Gallium Arsenide, Ceramic, Glass Ball Types: Ball Bumps, Stud Bumps
Pick PPM	400
Wafer Expansion	Online Expansion
Wafer Capacity	13-Slot Cassette
Feeder Quantity per FuzionSC	2
Wafer Mapping Support	ALPS and Ink-less Die

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